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ABSTRACT

The Computer-Assisted Study Skills Improvement Program (CASSIP) is designed to help students develop effective study skills and academic attitudes, thus increasing their potential for scholastic success. The program contains four integrated items: Study Skills Surveys; Study Skills Modules, Study Skills Notebook; and Study Skills Test. The surveys are used to identify students needing improvement in study organization, techniques, and/or motivation. The computer provides interactive instruction on study skills and academic attitudes via the ten Study Skills Modules: (1) managing time; (2) improving memory; (3) taking lecture notes; (4) reading textbooks; (5) taking examinations; (6) writing themes and reports; (7) making oral reports; (8) improving scholastic motivation; (9) improving interpersonal relations; and (10) improving concentration. Students use the notebooks to take notes and answer questions about the concepts and methods presented by the computer. Counselors and instructors use the study skills test to identify students requiring additional help in learning the recommended concepts and methods. A fifth item, the Effective Study Exercises, is available to provide activities which support, clarify, and demonstrate the concepts and methods presented in the modules. The program was field-tested at three universities, and statistical analyses showed significant improvement in student study skills and academic attitudes. (WAS)

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COMPUTER-ASSISTED STUDY SKILLS IMPROVEMENT PROGRAM

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Research has consistently shown that high-achieving college students tend to possess good study habits and attitudes whereas low-achieving students do not. The major purpose of the Computer-Assisted Study Skills Improvement Program (CASSIP) is to help all students develop efficient study skills and effective academic attitudes and thus increase their potential for scholastic success in college.

The program consists of four fully integrated items: (1) Study Skills Surveys, (2) Study Skills Modules, (3) Study Skills Notebook, and (4) Study Skills Test. The Study Skills Surveys are used to identify students needing to improve their study organization, study techniques, and/or study motivation. The computer provides interactive instruction on efficient study skills and effective academic attitudes via the ten Study Skills Modules. Students use the Study Skills Notebook to take notes and answer questions about the proven concepts and methods presented by the computer. Counselors and instructors use the Study Skills Test to identify students requiring additional help in learning the recommended concepts and methods. A fifth item, the Effective Study Exercises, is available to provide activities designed to support, clarify, and demonstrate the concepts and methods presented in the Study Skills Modules.

Study skills surveys

The Study Skills Surveys provide three 20-item checklists on which a student may indicate study organization, study techniques, and study motivation problems that are reducing study efficiency and effectiveness. Although the checklists do not assess the scope or the intensity of a student's problems, they do provide an economical procedure for inventorying the common concerns of a group of students and for identifying the individual problems of each student within the group.

Once the group's most prevalent problems have been ascertained, group discussion of the individual questions will stimulate analysis of underlying causes and identification of possible solutions. Likewise, individual discussion of a student's admitted problems during counseling will facilitate identification of probable causes and expedite planning of corrective steps.

For each of the three checklists, the score is obtained by counting the number of "no" responses checked by the student. To facilitate the interpretation of these scores, tables of norms for high school and college students provide both stanine scores and percentile ranges.

Study skills modules

The Study Skills Modules cover the following ten topics: (1) managing time, (2) improving memory, (3) taking lecture notes, (4) reading textbooks, (5) taking examinations, (6) writing themes and reports, (7) making oral reports, (8) improving scholastic motivation, (9) improving interpersonal relations, and (10) improving concentration. Each module typically requires approximately 45-50 minutes to complete. However, completion time is flexible in that each student proceeds at his or her own pace. The ten modules may be completed in any desired sequence and one or more of the modules may be omitted if this appears to be warranted. Throughout each module the student is actively involved in the learning process in several ways: (1) reading the study skills

concepts and procedures presented on the computer screen, (2) taking written notes on the concepts and procedures thus presented, (3) answering embedded multiple-choice questions about these concepts and procedures, (4) receiving immediate evaluation as to the correctness of the selected answer, and (5) receiving immediate corrective feedback whenever a given answer is incorrect.

A final check on student understanding of recommended concepts and methods is provided through instant grading and feedback for the multiple-choice quiz given at the end of each module. Students answering fewer than 70 percent of these questions correctly are encouraged to go back and repeat the module after seeking off-line help.

Each module is written in simple narrative style suitable for college-bound high school juniors and seniors and students enrolled in junior and senior colleges. Student interest in the concepts and methods being presented is enhanced by using fictitious names for the various experts and by comparing human and computer capabilities. The computer (named Yalag) attempts to help students with their academic adjustment problems by transmitting the knowledge about efficient study skills and effective academic attitudes that has been acquired from the experts and stored in memory.

The Study Skills Modules are suitable for use with either the mainframe computer with remote CRT terminals or the microcomputer with disk drive and CRT monitor. The modules have been programmed for use with the Apple II microcomputer with a single disk drive and CRT monitor. Later, they will be programmed for use with the Radio Shack TRS-80 Model III microcomputer. The modules have also been programmed for use with the Honeywell 66-20 and CDC Omega 480 mainframe computers using remote CRT terminals. Due to the lack of standardization in computer programming languages, however, institutions may need to arrange for local programming of the Study Skills Modules in a language appropriate to the institution's own computer.

Study skills notebook

The Study Skills Notebook is a 32-page workbook developed to accompany the Study Skills Modules. The notebook provides the student with a systematic approach for taking notes and answering questions about the concepts and methods presented in the ten modules. Reviewing the questions and answers aids the student in understanding the concepts and utilizing the methods that have proven to be effective for college academic work. The notebook also provides the basis for a systematic review of the computer-presented materials prior to taking the Study Skills Test following program completion.

Study skills test

The Study Skills Test is designed to measure the student's knowledge about efficient study skills and effective academic attitudes. Although there is no time limit, most students are able to answer the 200 true-false questions within one hour. Group testing may be accomplished by using printed test booklets and answer sheets. Individual testing may be accomplished on the computer by using a CRT monitor or terminal and the input keyboard.

Twenty questions are provided for each of the ten modules. Through pre-testing, the Study Skills Test may be used to identify students likely to profit from receiving the systematic instruction provided by one or more of the ten modules. Through post-testing, the Study Skills Test may be used to identify students requiring additional help in learning the recommended concepts and methods. The student is considered to have demonstrated minimum mastery of the materials presented in a module when 80 percent of the questions are answered correctly.

Effective study exercises

Research on study skills instruction has revealed that many students have great difficulty applying the concepts and methods learned in a how-to-study course. The 38 exercises in the Effective Study Exercises were

specifically developed to aid such students. The exercises were selected to support, clarify, and demonstrate the proven concepts and methods presented in the Study Skills Modules. The workbook is designed for use in a setting where prior, ongoing, and followup discussion may be employed to motivate, facilitate, and evaluate the ideas and procedures being presented. Accordingly, approximately one-third of the exercises require students to work in small discussion groups, while the remaining exercises require individual preparation and may be assigned as homework to reinforce the computer-presented material. The discussion of productive and unproductive habits and attitudes generated by the exercises has been found to be very useful in bringing about changes in study behavior and motivation. Use of the Effective Study Exercises is, therefore, recommended when students will be meeting together for instruction and discussion on a regular schedule.

Discussion

To date, development of the Computer-Assisted Study Skills Improvement program (CASSIP) has consumed over 3000 hours of professional time. The program has been systematically field-tested over a two-year period on over 400 college students and 100 college-bound high school students. The program may be readily adapted to fit a variety of instructional or counseling approaches. For example, East Texas State University, Florida State University, and Lamar University offer the program through an academic department, through the counseling center, and through the learning assistance center, respectively.

In the East Texas State University adaptation, the students receive self-paced, computer-assisted, study skills instruction by enrolling in a psychology course, Psy. 397, Developing Effective Study Skills and Attitudes, for which they receive three semester hours credit following satisfactory completion of all ten modules. Over 300 college students have completed

this course to date.

In the Florida State University adaptation, students requesting counseling on academic problems are asked to take the Study Skills Test and complete all modules thus identified as problem areas. A combination of computer-assisted study skills instruction and off-line academic adjustment counseling are thus employed to provide individualized assistance with academic problems.

In the Lamar University adaptation, students enrolling in special sections of Ed. 1201, College Reading and Writing Skills, complete the modules under the supervision of carefully selected, trained, and supervised peer counselors. In this program, the student-counseling-student approach is employed, with the peer counselors being utilized to facilitate, motivate, and evaluate each student's adaptation of recommended procedures. Here, the computer-presented Study Skills Modules are augmented by instructional activities and reinforcement experiences provided by two successful upperclassmen assigned to work with a group of 20-24 students.

Student reactions to the computer-presented concepts and methods, as reflected in evaluations made anonymously following program completion, have consistently been very positive. Furthermore, test-retest scores on the Survey of Study Habits and Attitudes and Study Skills Test have shown very significant improvement in student study skills and academic attitudes. In a series of investigations reported by Gadzella (7, 8, 9), test-retest gains on the Survey of Study Habits and Attitudes were significantly higher ($p < .01$) for a group of 88 students receiving computer-assisted study skills instruction than for either a control group of 67 students receiving no study skills help or a group of 97 students receiving fifteen hours of in-class instruction on study skills reading assignments completed outside of class. It was concluded that the computer-assisted approach was a superior method of providing

study skills instruction when compared to the class presentation approach. In another study (10), 60 students completed the Study Skills Test before and after receiving computer-assisted study skills instruction. Comparison of the two sets of test scores revealed that the test scores following course completion were significantly higher ($p < .01$) for all ten scales. Thus, the research results demonstrated that students receiving computer-assisted study skills instruction did learn the principles and procedures being presented.

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